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AUTHORS: ⑧ Dmitriyeva, N. N., Dmitriyev, V. A.

TITLE: ⑥ The distortion of an ionization burst spectrum effected by an amplifier

PERIODICAL: ⑤ TRANS. from Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 6, 1962, 77-10

TEXT: The distortion of pulses, i.e. the variation of the amplitude ratios, of a cylindrical ionization chamber was analyzed at various ionization distributions in the chamber. The case of an amplifier with broad pass-band ($\tau_1 = 10T$, $\tau_2 = 1/5T$) is investigated and some other cases, e.g. an amplifier with $\tau_1 = \tau_2 = T$, are discussed. T is the pulse duration, τ_1 and τ_2 are time constants of the most extreme differentiation and integration terms of the amplifier. The scattering and the magnitude of the output signals are compared for various values of τ_1 , τ_2 , T , and for various ionization distributions in the chamber. For $\tau_1 = \tau_2 = T$, the slope front

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The distortion of an ionization...

increases by $\leq 10\%$ and the pulse-height resolution is found to be 3%. For $\tau_1 = \tau_2 > T$, a smaller scattering is, however, always accompanied by a considerable increase in the slope front (several 100%). A method of tuning band width noise, and magnitude of T for certain purposes (with consideration of microphony) is discussed. There are 2 figures and 1 table.

ASSOCIATION: Kafedra kosmicheskikh luchey (Department of Cosmic Radiation)

SUBMITTED: February 26, 1962

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